
PRECISION
SECTIONING
SAW

# BUEHLER® ISOMET® 1000

- Large Cutting Capacity
- Inch or Metric Digital Display
- 7″ Diamond Blade Capacity
- Built-in Blade Dressing Device

BUEHLER

# Precision Sectioning Made Easy

*ISOMET 1000 Precision Saw with optional fixturing accessories.*

The first step to quality sample preparation is selecting the proper cutting method, one that will not introduce structural damage or defects to the area under analysis. The ISOMET® 1000 Precision Saw was designed for today's material analyst who demands sample integrity and rapid sectioning capabilities. This saw quickly sections a broad range of materials including:

- rocks
- plastics
- biomaterials
- minerals
- ceramics
- composites
- metals
- electronic components

## Quality Sections

A wide selection of chucks, fixtures, goniometers and rotating vises guarantees the proper fixturing of samples. The gravity feed loading design will not "force feed" the sample into the diamond wafering blade.

This design allows the ISOMET 1000 to achieve an as-cut surface which is free of damage and distortion.

The ISOMET 1000 can also be set to turn itself off at a predetermined cutting depth or at the completion of the section.

## Accessories Increase Versatility

The ISOMET 1000 can be equipped with an optional rotating chuck which effectively reduces the blade-sample contact area and frictional heat when sectioning hard materials. Besides increasing the cutting capacity, this accessory dramatically reduces sectioning time.

When sample size prohibits the use of standard chucks, the optional cutting table can be installed for manually sectioning or trimming biomaterials or electronic components.

Improved cutting performance is achieved by selecting the proper wafering blade required for the material. BUEHLER's application-specific wafering blades will match the material cutting needs to give the fastest cutting time with the least amount of deformation.

## Fully Enclosed Cutting

The ISOMET 1000's cutting compartment is fully enclosed. The transparent cutting hood can be removed and replaced with the accessory Table Saw Attachment when sectioning larger samples that require a greater clearance.

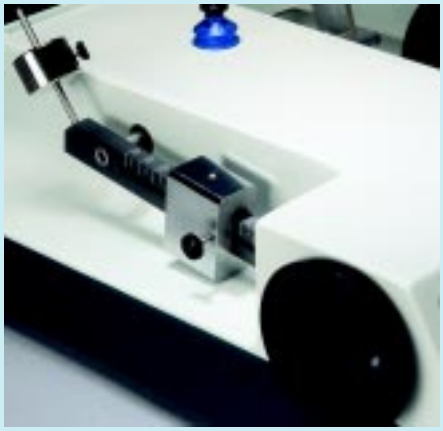
The removable coolant tray is accessible from the front of the machine for fast cleaning and easy retrieval of cut samples. The coolant tray also incorporates the blade dressing device which rapidly dresses the diamond wheel while sample sectioning continues.

The ISOMET 1000 Precision Sectioning Saw offers increased versatility and power for sectioning today's advanced materials.

The 11-2181 Rotating/Oscillating Chuck Accessory is available for sectioning difficult materials.

The 11-2482 Fastener Chuck makes longitudinal bolt sections easy.

11-2484 Glass Slide Chuck holds petrographic samples for resectioning.



Weight arm and micrometer controls are conveniently located outside the cutting compartment.


Membrane touch-pad control panel and LED display allow operators to quickly set cutting parameters.

Dressing chuck is conveniently located within the coolant tray.


The 11-2182 Table Saw Attachment effectively sections or trims biomaterials or printed circuit boards.

## Specifications

No. 11-2180 ISOMET 1000 Precision Saw, with automatic cut-off switch, counterbalanced sliding load weight system, 0-500gm, (0-800gm with accessory weight kit), built-in inch or metric digital micrometer cross-feed for sample location, removable coolant tray with built-in dressing device, 1/8 HP (90W) DC motor with continuous variable arbor speed 0-975 rpm. Includes one No. 11-4276 Series 15LC diamond wafering blade, 6″ x 0.020″ x 1/2″ (152mm x 0.5mm x 12.7mm) 11-2282 3″ (76mm) flanges, chucks No. 11-1184, 11-1185, 11-1186, 11-1187. Operating instructions. For worldwide operation on 85-264V/50-60Hz/single phase. Shipping weight: 75 lbs. (34kg). Dimensions: 15½″ W x 21″ D x 12″ H (394mm x 533mm x 305mm).

## Accessories

No. 11-1183 Chuck, double hold-down saddle type. Prevents possible damage to specimen by holding section portion firmly after cutting is completed. Useful for larger samples and sheet stock.

No. 11-1184 Chuck, for bar and tube stock up to 3/8″ (10mm) in diameter

No. 11-1185 Chuck, for irregular shaped samples

No. 11-1186 Chuck, for wafers single crystals and thin sections

No. 11-1187 Chuck, for long samples, saddle type

No. 11-1188 Chuck, for petrographic and ceramographic thin-sections, vacuum type, to hold glass slide

No. 11-1189 Chuck, for 1″ (25mm) or 1¼″ (32mm) diameter stock in mounted samples. This chuck requires use of one set of two No. 11-1192 Recessed Flanges.

No. 11-1190 Dressing Stick, for dressing Series 15 and 20 wafering blades

No. 11-1290 Dressing Stick, for dressing Series 5 and 10 wafering blades

No. 11-1191 Flange, 1½″ (44mm) diameter, recessed, set of two for larger specimens and where greater depth of cut is required

No. 11-1192 Flange, 1 3/8″ (35mm) diameter, recessed, set of two for use with No. 11-1188 Chuck, with No. 11-1189 Chuck and where maximum depth of cut is required

No. 11-2293-016 ISOCUT® PLUS Cutting Fluid, 1 pt. (0.48l)

No. 11-2181 Rotating/Oscillating Chuck Accessory, for holding and rotating (5 rpm) samples up to 2″ (50mm) in diameter

No. 11-2182 Table Saw Attachment, for hand-cutting long or irregular samples

No. 11-2183 Accessory Weight Set, for increasing cutting load to 800gm

No. 11-2185 ISOMET 1000 Goniometer

No. 11-2282 Flanges, 3″ (76mm) diameter, for greater depth of cut with larger diameter blades, set of 2

No. 11-2283 Flanges, 4″ (102mm) diameter, for additional blade support at higher speeds, set of 2

No. 11-2284 Flanges, 5″ (127mm) diameter, for additional blade support at higher speeds, set of 2

No. 11-2489 Specimen Chuck, for 1½″ and 40mm mounted samples

No. 11-2482 Fastener Chuck, for longitudinal sectioning of fasteners, tubes and solid cylinders from 1 1/8″ to 2 1/8″ (29mm - 54mm) in length

No. 11-2483 Double Saddle Chuck, 1″ (25mm) diameter capacity, prevents damage to specimen by holding sectioned portion firmly after cutting is completed

No. 11-2484 Glass Slide Chuck, holds 27mm x 46mm standard glass slides for thin sections

No. 11-2488 Glass Slide Chuck, holds 2″ x 3″ (51mm x 76mm) standard glass slides for thin sections

No. 11-2496 Chuck Padding, applied to chucks for holding brittle or friable specimens, strips of 1″ x 6″ (25mm x 152mm) with adhesive backing resistant to cutting fluids

## Diamond Wafering Blades 1/2″ (12.7mm) Arbor

| Type and Use | Diameter and Thickness | | | | |
|---|---|---|---|---|---|
| Blade Series | 3″ x 0.006″ (75 x 0.2mm) | 4″ x 0.012″ (100 x 0.3mm) | 5″ x 0.015″ (125 x 0.4mm) | 6″ x 0.020″ (150 x 0.5mm) | 7″ x 0.025″ (180 x 0.6mm) |
| Series 30HC Diamond, for use with plastics, polymers, and rubber | | | 11-4239** | | 11-4241** |
| Series 20HC Diamond, for aggressive general sectioning of ferrous and non-ferrous materials | | | 11-4215* | | 11-4237* |
| Series 15HC Diamond, for routine use, metal matrix composites, PC boards, thermal spray coatings | 11-4243 | 11-4244 | 11-4245 | 11-4246 | 11-4247 |
| Series 20LC Diamond, for use with hard/tough materials, structural ceramics, boron carbide, boron nitride, silicon nitride | | | 11-4225* | | 11-4227 |
| Series 15LC Diamond, for use with hard/brittle materials, structural ceramics electronic substrates, alumina, zirconia, silicon carbide | 11-4253 | 11-4254 | 11-4255 | 11-4276 | 11-4277 |
| Series 10LC Diamond, for use with medium to soft ceramics, electronic packages, GaAs, AIN and glass fiber reinforced composites | 11-4283 | | 11-4285 | | 11-4287* |
| Series 5LC Diamond, for use with soft friable ceramics, composites with fine reinforcing media, $CaF_2$, $MgF_2$, and carbon composites | 11-4298 | | 11-4295 | | |
| ISOCUT Wafering Blades<br>A cubic boron nitride abrasive. ISOCUT Wafering Blades work well for many materials, giving significantly shorter cutting times.<br>For iron and cobalt base alloys, nickel base super alloys and lead base alloys | 11-4263 | 11-4264 | 11-4265 | 11-4266 | 11-4267 |

***Alternate blade thickness of 0.020″ (0.5mm)** ***Alternate blade thickness of 0.030″ (0.8mm)**

*For a complete listing of Buehler consumable supplies for use with the ISOMET 1000, please refer to Buehler's Consumables Buyer's Guide.*
*Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.*

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